



U.S. DEPARTMENT OF
ENERGY

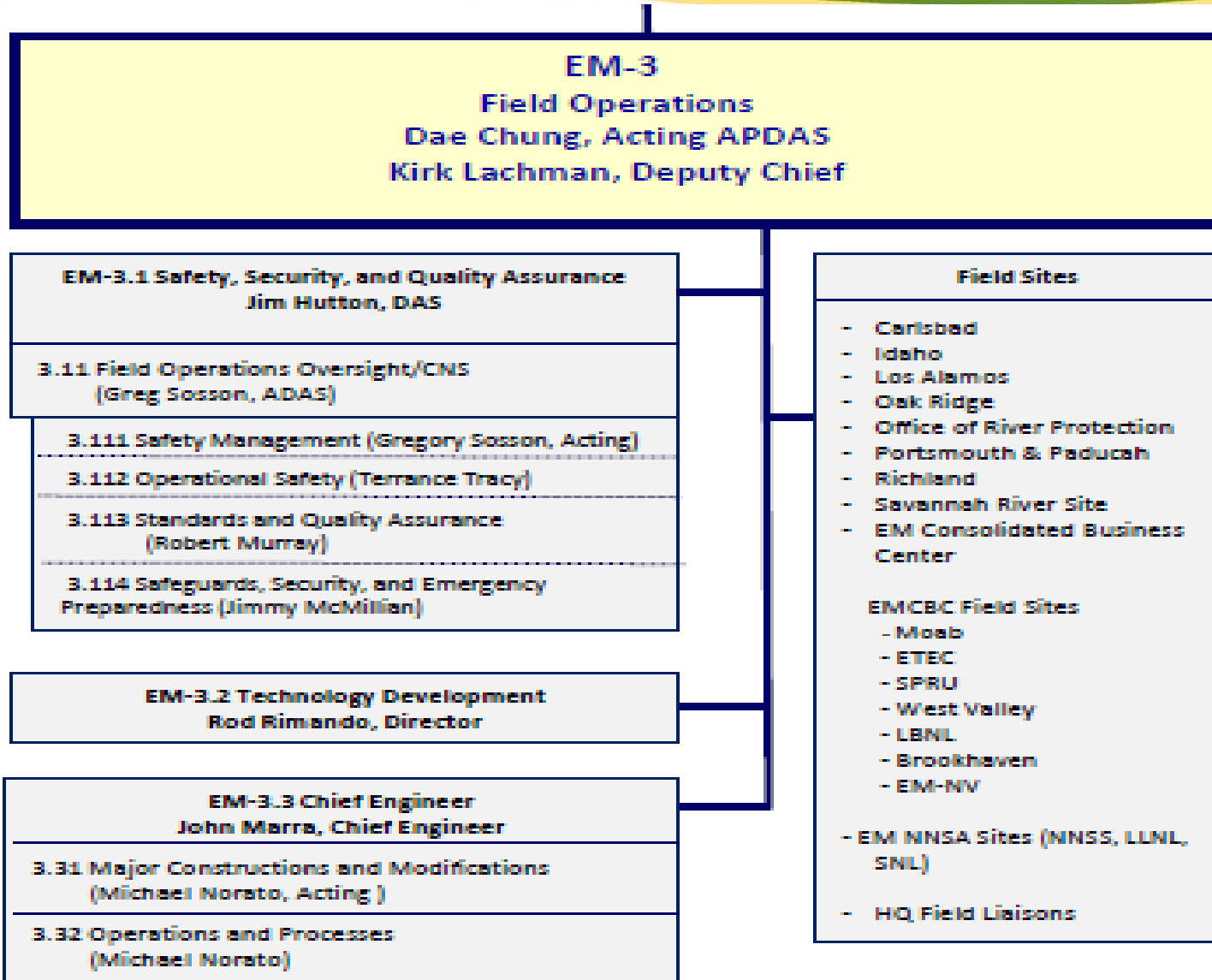
OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**

EM Office of Field Operations Update To Environmental Management Advisory Board

Ken Picha

Senior Advisor
Office of Field Operations

May 2018



EM Sites

Washington

- Hanford Site
- Richland Operations Office
- Office of River Protection

Idaho

- Idaho National Laboratory

New York

- West Valley
- Separations Research Process Unit
- Brookhaven

Kentucky

- Paducah

California

- Energy Technology Engineering Center
- Lawrence Livermore

Ohio

- Portsmouth

Nevada

- Nevada National Security Site

Utah

- Moab

South Carolina

- Savannah River Site

New Mexico

- Los Alamos
- Sandia
- Carlsbad

Tennessee

- Oak Ridge



EM has 16 sites in 11 states and has reduced its footprint by 90% to less than 300 square miles

EM to continue focus on risk reduction cleanup activities that are safe, environmentally responsible and cost effective.

Key areas of focus include the following:

- Tank waste remediation at three sites
- Progress on key construction projects
- Safe receipt and management of special nuclear materials including spent nuclear fuel and non-proliferation program returns of US origin nuclear materials
- Management of integrated transuranic, low-level waste and mixed waste programs
- Soil and groundwater remediation
- Facility decontamination and decommissioning

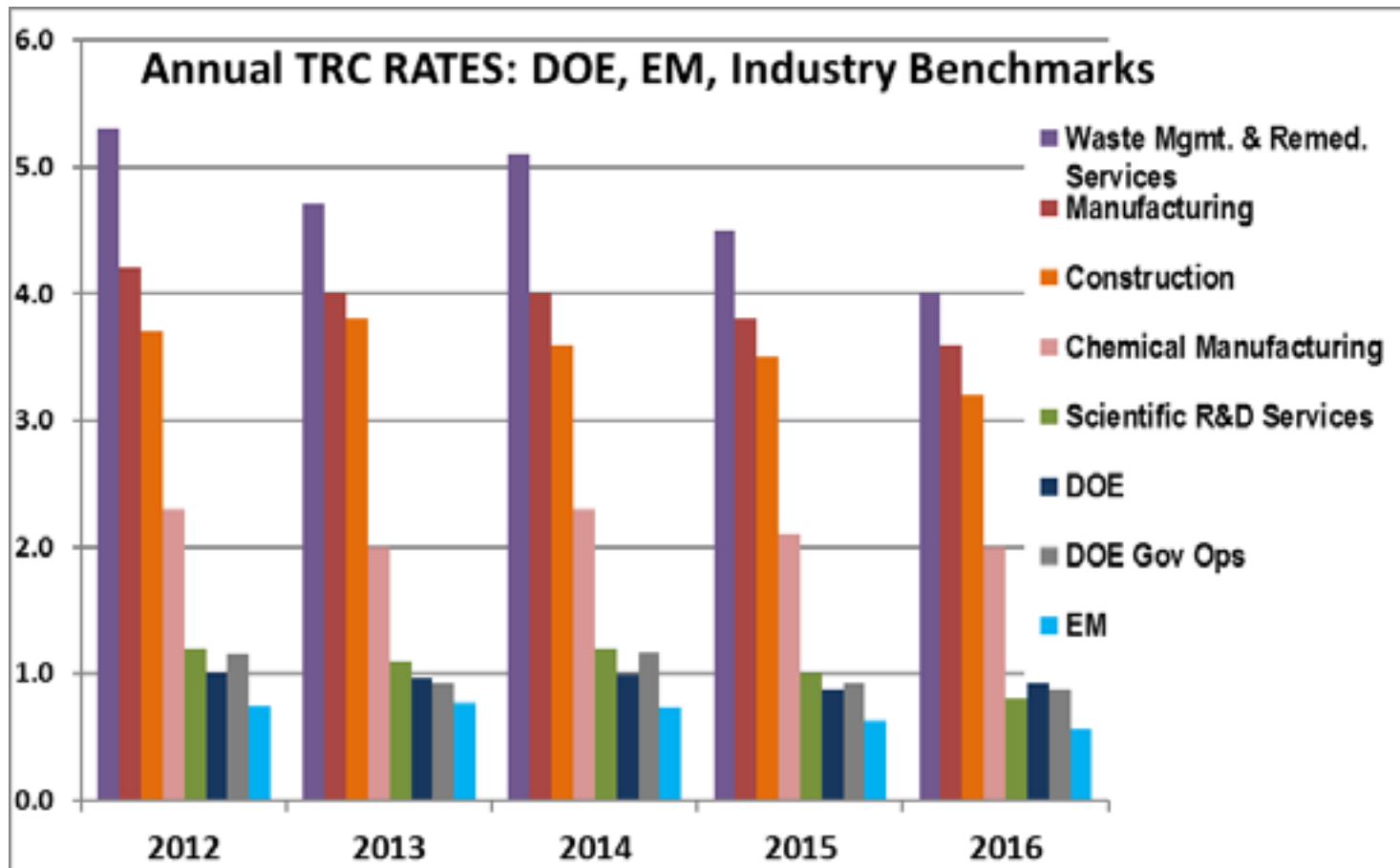


Tank 20 at the Savannah River Site



Waste Emplacement at the Waste Isolation Pilot Plant

EM Safety Performance



Recent Accomplishments

- Los Alamos – safe treatment of nitrate salt drums to ensure they meet WIPP acceptance
- WIPP - Continues to receive shipments; recently received 12,000th shipment
- Oak Ridge – Ground-breaking for Mercury Treatment Facility, enabling further cleanup of Y-12
- SRS – Accepted 30 million gallon Salt Disposal Unit #6; replaced 3rd melter in DWPF
- Hanford – Final cleanup of 618-10 burial ground



EM will also be able to mark completion of significant cleanup activities across the complex:

- Complete demolition of the C-400 Cleaning Building at Paducah
- Complete deactivation of the Vitrification Facility at the West Valley Demonstration Project
- Complete Building X-326 deactivation (~56 acres under roof on two floors) at Portsmouth



Demolition of WVDP Vitrification Facility



X-326 Building

EM will continue progress of work proposed in the FY 2018 Congressional budget with work on facilities at the Y-12 National Security Complex, and at Lawrence Livermore National Laboratory. (\$150M)

Y-12



Y-12 National Security Complex – Biology Complex Building

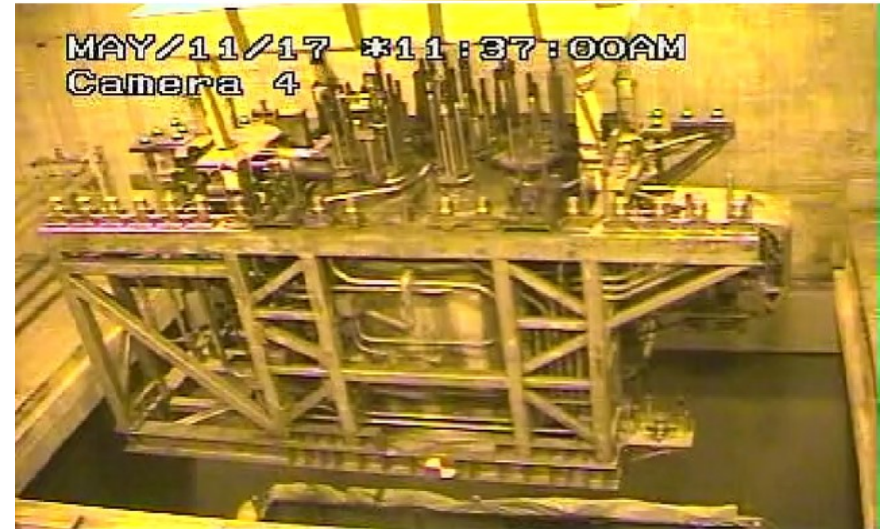
Lawrence Livermore National Laboratory (LLNL)



LLNL– Livermore Pool Type Reactor Building 280

Tank Waste Progress

- SRS – Accepted 30 million gallon Salt Disposal Unit; replaced 3rd melter in DWPF; installing tank-side pretreatment system
- Idaho – Completed extensive modifications to IWTU and beginning heat-up for simulant runs; development of processes for calcine retrieval
- Hanford – Continued progress on WTP; modifications in tank farms to support Direct Feed LAW; exploring other waste disposition approaches



Salt Waste Processing Facility:

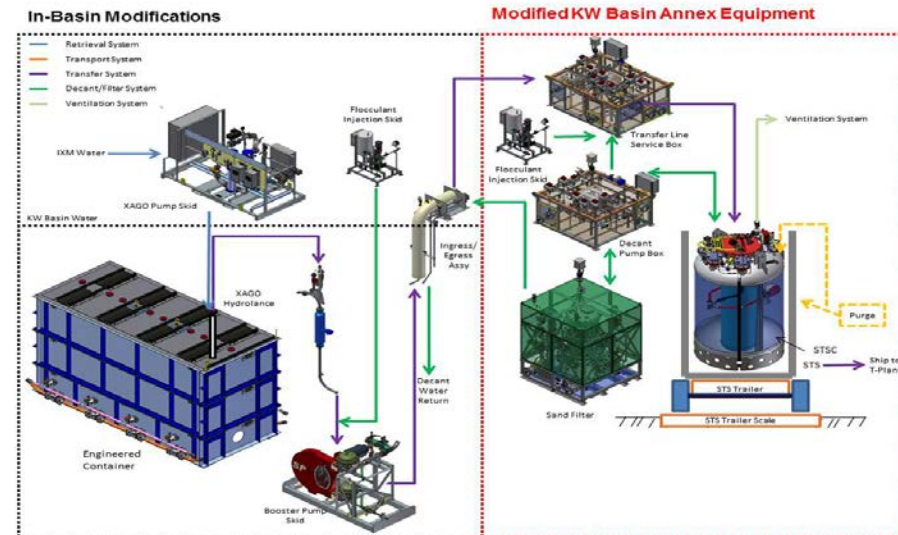
- Construction complete in 2016 ahead of schedule
- Startup and commissioning challenges (e.g., equipment obsolescence)

Engineered Container Retrieval and Transfer System

- Extensive testing and mock-up prior to equipment installation
- Construction and commissioning complete
- Start of operations planned by end of May 2018

Waste Treatment and Immobilization Plant

- Progress towards completing facilities required for Direct Feed Low Activity Waste approach
- LAW facility nearing construction complete



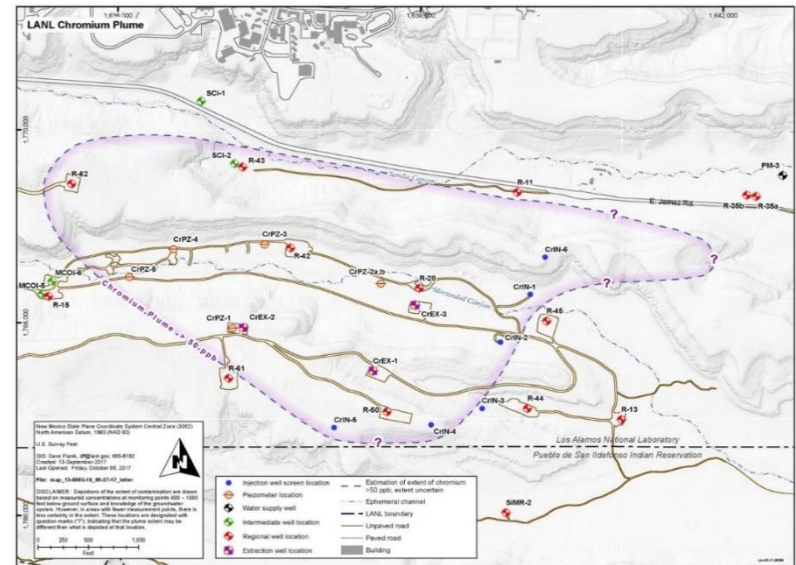
- Continuing to receive shipments of foreign and domestic research reactor spent fuel and other materials
- Began processing Office of Science HFIR fuel
- Continued safe storage of plutonium and other materials; demonstrated ability to downblend plutonium oxide for disposition at WIPP



- Ramping up number of weekly shipments to WIPP to 10
- Resumed salt mining in WIPP (8,000 tons of salt removed)
- Remediated all nitrate salt drums (source of 2014 event)
- On track to dispose of 1.3 million FT³ of LLW at Nevada in FY18



- Continued operation of Hanford 200-W groundwater treatment system
- Continued mitigation of Chromium plume at LANL
- Cleanup of old coal-fired ash piles at SRS
- In February achieved milestone of over 9 million tons of material disposed at Moab



- Much of PFP structure demolished, but core portions of facility halted
- WVDP Vitrification Facility demolition
- Expect completion of D&D activities at SPRU by end of FY2018
- Continued completion of D&D work EM performs at LBNL



Challenges

- Infrastructure – Much of complex constructed over 50 years ago; challenge to maintain
- Commissioning – One of a kind facilities; transition from construction to testing/operations
- Quality Assurance – Lack of NQA-1 vendors; commercial grade dedication
- Regulatory challenges – Meeting milestone dates
- Nuclear materials challenges

